

Stem Cell Agency Invests in Therapy Using Killer Cells to Target Colorectal, Breast and Ovarian Cancers

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While there have been some encouraging advances in treating cancer in recent decades there are still many cancers that either resist treatment or recur after treatment. Today the governing Board of the California Institute for Regenerative Medicine (CIRM) approved investing in a therapy targeting some of these hard-to-treat tumors.

BioEclipse Therapeutics Inc. was awarded almost \$8M to test a therapy using immune cells loaded with a cancer-killing virus that targets cancer tissue but spares healthy tissue.

This is the 78th clinical trial funded directly by the Stem Cell Agency.

BioEclipse combines two approaches - an immune cell called a cytokine-induced killer (CIK) cell and a virus engineered to kill cancer cells called an oncolytic virus (OV) - to create what they call "a multi-mechanistic, targeted treatment." They will use the patient's own immune cells and, in the lab, combine them with the OV. The cell/virus combination will then be administered back to the patient. The job of the CIK cells is to carry the virus to the tumors. The virus is designed to specifically attack and kill tumors and stimulate the patient's immune system to attack the tumor cells. The goal is to eradicate the primary tumor and prevent relapse and recurrence.

"With the intent to develop this treatment for chemotherapy-resistant or refractory solid tumors including colorectal cancer, triple negative breast cancer, ovarian cancer, gastric cancer, hepatocellular carcinoma, and osteosarcoma," says Dr. Maria T. Millan, President and CEO of CIRM. "It addresses a significant unmet medical need in fatal conditions for which there are limited treatment options."

The CIRM Board also approved more than \$18 million in funding four projects under the Translation Projects program. The goal of this program is to support promising regenerative medicine (stem cell-based or gene therapy) projects that accelerate completion of translational stage activities necessary for advancement to clinical study or broad end use.

The awards went to:

Application	Title	Institution	Award Amount
TRAN1-133442	Optogenetic therapy for treating retinitis pigmentosa and other inherited retinal diseases	Paul Bresge Ray Therapeutics Inc.	\$3,999,553
TRAN3-13332	Living Synthetic Vascular Grafts with Renewable Endothelium	Aijun Wang UC Davis	\$3,112,567
TRAN1-13370	Next generation affinity-tuned CAR for prostate cancer	Preet Chaudhary University of Southern California	\$5,805,144

TRAN1-3345	Autologous MPO Knock-Out Hematopoietic Stem and Progenitor Cells for Pulmonary Arterial Hypertension	Don Kohn UC Los Angeles	\$5,207,434
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About CIRM

At CIRM, we never forget that we were created by the people of California to accelerate stem cell treatments to patients with unmet medical needs, and act with a sense of urgency to succeed in that mission.

To meet this challenge, our team of highly trained and experienced professionals actively partners with both academia and industry in a hands-on, entrepreneurial environment to fast track the development of today's most promising stem cell technologies.

With \$5.5 billion in funding and more than 150 active stem cell programs in our portfolio, CIRM is the world's largest institution dedicated to helping people by bringing the future of cellular medicine closer to reality.

For more information go to www.cirm.ca.gov

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